## **Key Word or Phase Searches:**

- Search by single words such as test or hello.
- Search by a phrase by surrounding the phrase with double quotes such as "hello dolly".
- Multiple words can be combined together with upper case Boolean operators (AND, OR, NOT) to form a more complex query such as jazz OR blues, jazz AND blues, jazz NOT blues.

## **Formatting and Indexing:**

The following rules are applied when searching the database, and can be used as a guideline(s) for your search criteria.

Special characters have special meanings so normally do not include any of the following special characters in your search criteria:

- +-&&||!(){}[]^"~\*?:\
- If you need to search for the special characters, you must prefix the character with a \ so it is recognized as a special character. For example to search for (1+1):2 use the query: \( \lambda(I \+ I \rangle) \lambda : 2 \)

## **Refine Searches:**

- 1. **Wildcard queries** Allows for broader search results. Characters take the place of any character that is not known or specified (can be prefixed and suffixed).
  - 1. To perform a single character wildcard search use the question mark (?) symbol. Example: te?t will return text and test.
  - 2. To perform a multiple character wildcard search use the asterisk(\*) symbol. Example: test\* will return test, tests and tester.
- 2. **Fuzzy queries** Searches for words with a form similar to the words entered. This is useful for finding misspelled words. It is used by adding the tilde (~) symbol at the end of a single word. Example: sarah~ thompson~ will give all different spellings and similar names to sarah thompson.
- 3. **Boolean or Logical Operators** Are used to allow you to enter several words in a search. Note: Boolean operators must be ALL CAPS. The OR operator is the default. The Boolean short cut symbols are in parenthesis.
  - OR (||) Retrieves documents in which at least one of the entered words is present. The query dog OR cat returns names that contain the word "dog", the word "cat" or both words "dog" and "cat" in the document.
  - AND (&&) Retrieves documents in which all the entered words are present. The query dog AND cat returns names that contain both the words "dog" and "cat" regardless of their order within the document.
  - Required (+) Requires the term after the "+" symbol to exist somewhere in the document. The query +dog cat returns names that must contain "dog" and may contain "cat".
  - NOT (!) Excludes documents that contain the term after NOT. The query dog NOT cat returns names which have the word "dog" but not the word "cat".
  - Prohibit (-) Excludes documents that contain the term after the "-" symbol. The minus sign should appear immediately before the word and should be preceded with a space. The query "*Jakarta Apache*" -"*Apache Lucene*" will return all names with "Jakarta Apache" but not "Apache Lucene".
  - Grouping () Using parentheses to group key words or clauses. The query (*Jakarta OR Apache*) *AND website* will result in documents where the name Jakarta or Apache appears along with the word website.